

ABSTRACT

1 An imager module has a retractable lens assembly that is received in a lens holder. The
2 lens assembly is extended to an extended position for best focus in several alternative
3 embodiments. The lens holder has an image end and an object end and an inner guide
4 surface. An imager has an image plane, the imager is coupled to the lens holder
5 adjacent the lens holder object end. A lens assembly has an objective lens with one or
6 more lens elements co-axially aligned on an optical axis. The lens assembly has an
7 image end, an object end, an optical axis, and an external guide surface. The lens
8 assembly external guide surface is supported by the lens holder inner guide surface. The lens
9 holder is formed to allow the lens assembly external guide surface to move on
10 the lens holder inner guide surface from a retracted position to an extended position
11 using a mechanical, magnetic or electromagnetic means for advancing the lens
12 assembly to the extended position in response to an electrical signal from a mechanical
13 or an electrical signal source.

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